**Site Name: Guthrie Center PCE, Guthrie Center, Iowa**

Pre-Remedial Initial Site Screening (ISS)

Project Manager: Jim Kacer

Date: October 26, 2009

***Summarize the site history (past usages, past ownerships, wastes, known or suspected contamination pathways such as tanks, septic tank/tile field, lagoon, land applications, S.W. burial, etc)***

The site is located in the vicinity of Guthrie Center Fire Station at 101 State Street in Guthrie Center, Iowa (Figure 1). During the course of a 2009 Brownfield Site-Specific Assessment (SSA) addressing a petroleum release at the Former Blockton Oil site, 105 W State Street in Guthrie Center, it was discovered that tetrachloroethene (PCE) was present in the shallow groundwater in the area, with the highest concentration (300 µg/L) observed in a well located at the Fire Station (the next highest observed PCE concentration was 43 µg/L). This is in the presumed hydraulically upgradient direction from Blockton Oil. Several PCE degradation products were also detected in groundwater. Groundwater monitoring locations associated with the Blockton Oil SSA are shown on Figure 2.

Review of Sanborn maps and DNR records indicate that several auto repair, printing, and laundry facilities were located east and northeast of the fire station. These facilities may have used PCE as a degreaser or as a dry cleaning agent. Note that the former Wardrobe Cleaners is located approximately 2 blocks northeast of the fire station in the presumed hydraulically upgradient direction from the fire station. This facility was identified by IDNR and EPA records as:

- A registered underground storage tank (UST) site, Registration No. 198915585. The site is not listed as a leaking UST site. IDNR's UST/LUST files indicate that a 150-gallon heating oil UST and a 150-gallon solvent UST were formerly present at this site.

- An inactive RCRA facility, EPA ID Number IAD981497365. No generator classification was listed on EPA's Facility Registry System (FRS). According to EPA's Enforcement & Compliance History Online (ECHO) site, the site has never been inspected for RCRA compliance. No history of enforcement actions or corrective actions were listed for this facility.

No records were readily available to determine whether the laundry facilities shown on the Sanborn maps included on-site dry cleaning capabilities.

***Briefly describe the site assessment that was conducted (number of borings, monitoring wells, number of samples, depth of soil samples and monitoring wells, analysis, etc.)***

No investigations specific to the chlorinated solvent plume have been conducted, although several investigation of petroleum contamination at the neighboring Blockton Oil property have been conducted. The most recent investigation was the Brownfield Site-Specific Assessment (SSA) conducted by IDNR in 2009. The 2009 investigation included collection of:

- A sample from the area of stained soil on the west side of the property noted in the 2009 Phase I Environmental Site assessment. A portion of the soil sample, BOSS-1 (Blockton Oil surface sample), was sent to the laboratory for analysis of volatile organic

compounds (VOCs) and total extractable hydrocarbons (TEH). No VOC or TEH analytes exceeded statewide standards. Cobalt exceeded the statewide standard in BOSS-1; no other metals exceeded statewide standards. Neither the soil samples collected as part of the SSA, nor soil samples previously collected at Blockton Oil identified a potential source of chlorinated solvents.

- Groundwater samples from 18 locations, including the 2 city wells located across State Street from the site. Chlorinated solvents were identified in several locations on the Blockton Oil site and at the monitoring well at the Guthrie Center Fire Station. Chlorinated solvents were also detected during a 2006 sampling event at Blockton Oil.

Groundwater sample locations are shown on Figure 2 and sample results are summarized in tables in the following section.

***Summarize the findings and conclusions regarding the contaminants found and their extent and concentrations. Relate those values to known criteria such as statewide standards, MCLs, water quality standards, background levels or other benchmarks used to determine site priority.***

Results of groundwater analyses from the Blockton Oil investigation are summarized in the following table.

**Table 1**
**Blockton Oil**
**Groundwater Analytical Results**
Results exceeding statewide standards are listed in shaded cells

| | Date | Gasoline, µg/L | Diesel fuel, µg/L | Motor Oil, µg/L | TEH, µg/L | Benzene, µg/L | Tetrachloro-ethene, µg/L* | Cis-1,2-DCE, µg/L* | TCE, µg/L* | MTBE, µg/L |
|---|---|---|---|---|---|---|---|---|---|---|
| Statewide Standard | | | 1,200 | 400 | | 5 | 5 | 70 | 5 | 21 |
| Sample | | | | | | | | | | |
| GPMW-1 | 4-29-09 | <100 | <100 | <100 | <100 | 9 | 35 | ND | 20 | ND |
| MW-1 | 8-30-06 | <100 | <100 | <100 | <100 | <2 | 10 | | 11 | |
| MW-2 | 4-29-09 | 260 | <100 | 1,000 | 1,300 | 340 | ND | ND | ND | 270 |
| MW-3 | 4-30-09 | Not analyzed | | | | 580 | ND | ND | ND | ND |
| MW-3 | 6-16-09 | <11,000 | 370,000 | <11,000 | 370,000 | 1,300 | ND | ND | ND | <20 |
| MW-3 | 8-30-06 | <80,000 | 1,100,000 | <80,000 | 1,100,000 | Not analyzed | | | | |
| MW-4 | 4-30-09 | <100 | <100 | <100 | <100 | <2 | ND | ND | ND | ND |
| GPMW-5 | 4-29-09 | | 15,000 | 2,000 | 17,000 | <2 | ND | ND | ND | ND |
| GPSP-5 | 6-16-09 | <100 | <100 | <100 | <100 | <2 | 43 | ND | 8 | <2 |
| MW-5 | 8-30-06 | <20,000 | 770,000 | | 770,000 | Not analyzed | | | | |
| MW-6 | 4-30-09 | Not analyzed | | | | 120 | 300 | 12 | 130 | ND |
| MW-6 | 6-16-09 | <100 | 150 | <100 | 150 | 19 | 120 | 7 | 62 | <2 |
| MW-6 | 8-30-06 | <100 | <100 | <100 | <100 | 3 | 58 | ND | 34 | <2 |
| MW-7 | 4-29-09 | <100 | <100 | 280 | 280 | 4 | 6 | ND | ND | ND |
| MW-8 | 4-29-09 | <100 | <100 | <100 | <100 | <2 | ND | ND | ND | 200 |
| MW-8 | 8-30-06 | 250 | 120 | <100 | 370 | 300 | ND | 7 | ND | 1,700 |
| MW-9 | 4-30-09 | <100 | <100 | <100 | <100 | <2 | ND | ND | ND | ND |
| MW-10 | 4-30-09 | <100 | <100 | <100 | <100 | <2 | ND | ND | ND | ND |
| GPSP-11 | 6-16-09 | <100 | <100 | <100 | <100 | 18 | ND | ND | 26 | <2 |
| MW-12 | 4-29-09 | <100 | <100 | <100 | <100 | <2 | 39 | ND | ND | ND |

| | Date | Gasoline, µg/L | Diesel fuel, µg/L | Motor Oil, µg/L | TEH, µg/L | Benzene, µg/L | Tetrachloro-ethene, µg/L* | Cis-1,2-DCE, µg/L* | TCE, µg/L* | MTBE, µg/L |
|---|---|---|---|---|---|---|---|---|---|---|
| Statewide Standard | | | 1,200 | 400 | | 5 | 5 | 70 | 5 | 21 |
| Sample | | | | | | | | | | |
| MW-12 | 8-30-06 | <100 | <100 | <100 | <100 | 3 | ND | ND | 25 | 160 |
| MW-13 | 4-30-09 | <100 | <100 | <100 | <100 | <2 | ND | ND | ND | ND |
| MW-13 | 8-30-06 | <100 | <100 | <100 | <100 | 14 | 60 | 9 | 41 | <2 |
| MW-14 | 4-30-09 | 270 | 270 | | 540 | 200 | 6 | ND | ND | ND |
| GPSP-18 | 6-16-09 | <130 | 290 | <130 | 290 | 240 | 16 | ND | ND | <4 |
| Guthrie Center Well 4 | 6-16-09 | <100 | <100 | <100 | <100 | <2 | ND | ND | ND | <2 |
| Guthrie Center Well 4 | 8-30-06 | <100 | <100 | <100 | <100 | <2 | ND | ND | ND | <2 |
| Guthrie Center Well 5 | 6-16-09 | <100 | <100 | <100 | <100 | <2 | ND | ND | ND | <2 |

*The presence of chlorinated hydrocarbons was reported during BTEX analysis, i.e., a full analysis for volatile organic compounds under EPA Method 8260 was not performed.

***Identify on-site or off-site potential and actual targets (e.g., municipal wells, private wells, drinking water intakes). What is known of the neighboring area, i.e., are there residences, businesses, public use areas, etc.? Are there utility lines that could be impacted by site contaminants? Identify any other use/location issues that deserve consideration.***
IES Utilities is adjacent to the north boundary of the fire station, with a primarily residential area further to the north, a commercial area to the east, the City of Guthrie Center water supply facility and a commercial area to the south, and the former Blockton Oil site and a gasoline station to the west of the site (the land west of this station is undeveloped). The South Raccoon River is approximately 400 feet west of the site.

Other than the groundwater monitoring well installed as part of the previous site investigations on the adjacent property, no water wells were identified on site.

Three municipal wells were identified within ¼ mile of the site:

- Guthrie Center Well #1, Well ID 40042, total depth of 61 feet bgs (drilled in 1929), located approximately 330 feet southwest of the site, in the presumed downgradient direction from the site. Used only for standby. This well is referred to as Well #4 by the City of Guthrie Center municipal utility employees, but is identified as Well #1 on the IDNR Geosam website (http://www.igsb.uiowa.edu/webapps/geosam/).

- Guthrie Center Well #2, Well ID 40043, total depth of 60 feet bgs (drilled in 1941), located approximately 390 feet south-southwest of the site, in the presumed downgradient direction from the site. Used only for standby. This well is referred to as Well #5 by the City of Guthrie Center municipal utility employees, but is identified as Well #2 on the IDNR GEOSAM website.

- Guthrie Center Well #3, Well ID 19834, total depth of 50 feet bgs (drilled in 1967), located approximately 800 feet south of the site, in the presumed cross-gradient direction from the site.

Four municipal wells were identified between ¼ and ½ mile from the site:

- Guthrie Center Well #4, Well ID 40044, total depth of 70 feet bgs (drilled in 1984), located approximately 2,630 feet north-northwest of the site, in the presumed cross-gradient direction from the site.

- Guthrie Center Well #8, Well ID 49956, total depth of 80 feet bgs, located approximately 2,580 feet north-northwest of the site, in the presumed cross-gradient direction from the site.

- Guthrie Center Well #6, Well ID 40046, total depth of 70 feet bgs (drilled in 1984), located approximately 2,220 feet northwest of the site, in the presumed cross-gradient direction from the site.

- Guthrie Center Well #7, Well ID 49955, total depth of 80 feet bgs, located approximately 1,780 feet northwest of the site, in the presumed cross-gradient direction from the site.

No private wells were identified within ¼ mile of the site.

Two private wells were identified between ¼ and ½ mile from the site, both northeast (upgradient) of the site:

- Well ID 49367, 70 feet bgs
- Well ID 12908, unknown

Three abandoned wells were identified within ¼ mile of the site, and eleven abandoned wells were identified between ¼ and ½ mile of the site.

No other wells were identified within ½ mile of the site.

City of Guthrie Center Ord. No.2000-02 prohibits the installation of water wells within the city limits.

***Rate the site on a scale of 1 to 4, in decreasing order of severity or priority.***
2

***Summarize the reasoning, knowledge or any other information used in determining your recommendation regarding the priority assigned to this site.***
The Brownfield Site Specific Assessment (SSA) report for an adjoining property identified tetrachloroethene (PCE) and its degradation products in a monitoring well (MW-6) located at the Guthrie Center Fire Station, presumably in the hydraulically upgradient direction from the SSA site. PCE and TCE were also detected on the adjoining property and MW-6 in 2006. Further investigation is warranted because:

- Separate sampling events (2006 and 2009) have detected PCE and its degradation products at MW-6 and the adjoining property. PCE concentrations increased between the 2006 and 2009 sampling events, and PCE was present during the 2009 sampling event in a monitoring well where it was not previously detected (MW-12), i.e., the contaminant plume appears to be migrating toward the city wells. The PCE concentration in MW-6, 300 µg/L, was the highest PCE concentration observed during

the SSA sampling, and well above the statewide standard for protected groundwater sources, 5 µg/L.

- Site contamination has not been sufficiently defined, i.e., due to the limited nature of the previous investigations, which were focused on an adjacent property, the area of highest contaminant concentration (the source area) may not have been defined, and the horizontal extent of contamination has not been defined.

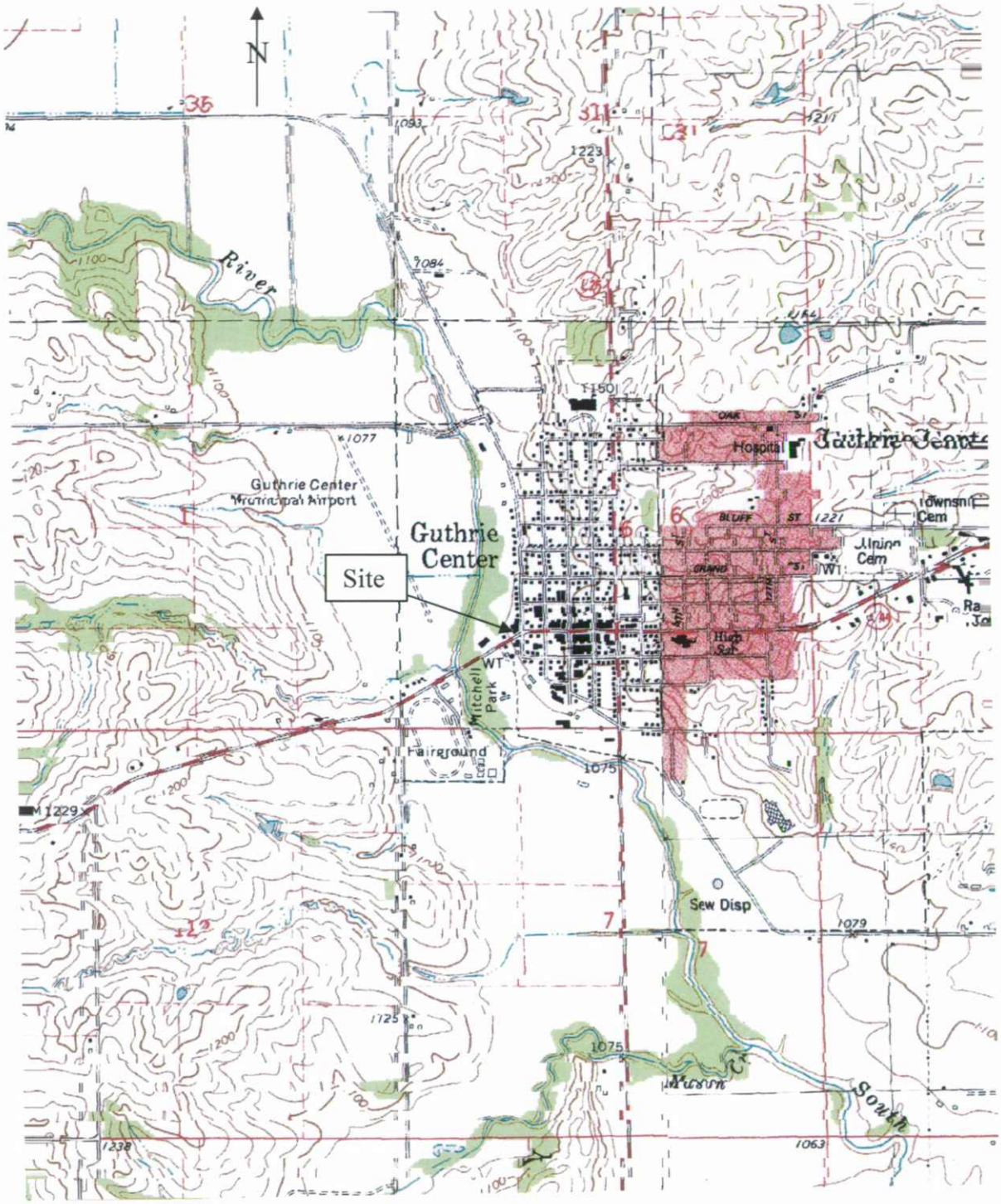
- Two municipal water supply wells are located in the vicinity. Groundwater flow direction appears to be generally towards the wells, but should be further evaluated to determine the potential threat to the nearby wells.

Further investigation, consisting of an extended site screening (ESS), is recommended under CERCLA authority to locate a contaminant source (or sources) while defining the nature and extent of contamination.

**Form Reviewed:** Cal Lundberg **Date Reviewed:** 10/26/09

# Figure 1 – Site Location and Topography

## Guthrie Center PCE
## Guthrie Center, Iowa



the SSA sampling, and well above the statewide standard for protected groundwater sources, 5 µg/L.

- Site contamination has not been sufficiently defined, i.e., due to the limited nature of the previous investigations, which were focused on an adjacent property, the area of highest contaminant concentration (the source area) may not have been defined, and the horizontal extent of contamination has not been defined.

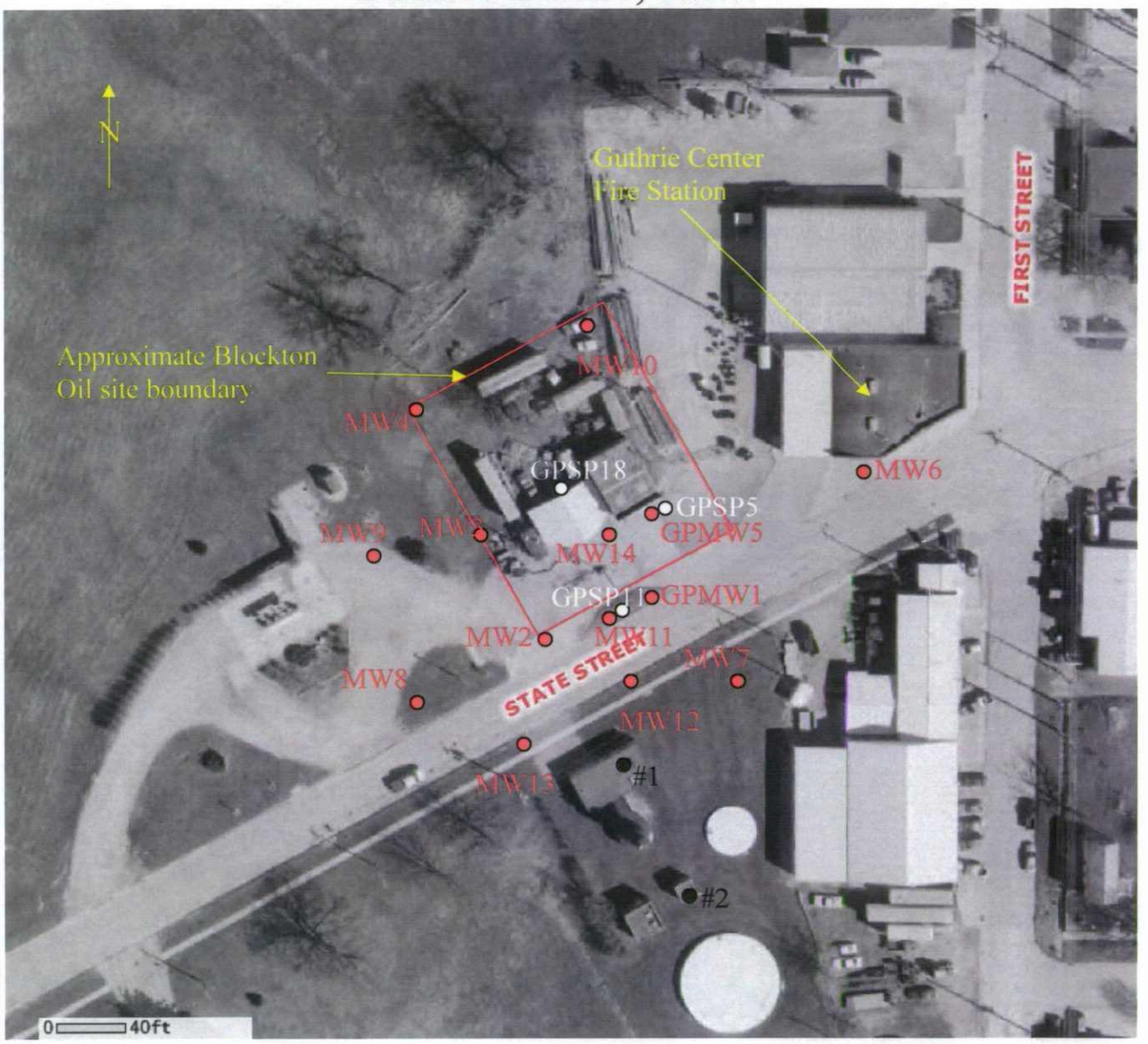
- Two municipal water supply wells are located in the vicinity. Groundwater flow direction appears to be generally towards the wells, but should be further evaluated to determine the potential threat to the nearby wells.

Further investigation, consisting of an extended site screening (ESS), is recommended under CERCLA authority to locate a contaminant source (or sources) while defining the nature and extent of contamination.

**Form Reviewed:** Cal Lundberg **Date Reviewed:** 10/26/09

# Figure 2 – Sample Locations

## Former Blockton Oil SSA
## Guthrie Center, Iowa




Scale: as shown

- GPSP18 Geoprobe screen point groundwater sample location.
- MW11 Approximate location of existing monitoring wells.
- #1 Approximate location of municipal water supply wells.

# PRE-CERCLIS SCREENING ASSESSMENT CHECKLIST/DECISION FORM

This checklist can assist the site investigator during the Pre-CERCLIS screening. It will be used to determine whether further steps in the site investigation process are required under CERCLA. Use additional sheets, if necessary.

**Checklist Preparer:** Jim Kacer, Environmental Specialist (Name/Title) 10/26/2009 (Date)
Iowa DNR, Wallace Bldg, Des Moines, IA 50319 (Address) 515.281.4117 (Phone)
Jim.Kacer@dnr.iowa.gov (E-mail Address)

**Site Name:** Guthrie Center PCE, Guthrie Center , Iowa

**Previous Names (if any):**

**Site Location:** 101 State Street
Guthrie Center (City) IA (ST) 50115 (Zip)

**Latitude:** 41.677222 **Longitude:** -94.507222

| Compare the following checklist. If "yes" is marked, please explain below. | YES | NO |
|---|---|---|
| 1. Does the site already appear in CERCLIS? | ☐ | ☒ |
| 2. Is the release from products that are part of the structure of, and result in exposure within, residential buildings or businesses or community structures? | ☐ | ☒ |
| 3. Does the site consist of a release of a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena, from a location where it is naturally found? | ☐ | ☒ |
| 4. Is the release into a public or private drinking water supply due to deterioration of the system through ordinary use? | ☐ | ☒ |
| 5. Is some other program actively involved with the site (i.e., another Federal, State, or Tribal program)? | ☐ | ☒ |
| 6. Are the hazardous substances potentially released at the site regulated under a statutory exclusion (i.e., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC, UMTRCA, or OSHA)? | ☐ | ☒ |
| 7. Are the hazardous substances potentially released at the site excluded by policy considerations (e.g., deferral to RCRA Corrective Action)? | ☐ | ☒ |
| 8. Is there sufficient documentation that clearly demonstrates that there is no potential for a release that could cause adverse environmental or human health impacts (e.g., comprehensive remedial investigation equivalent data showing no release above ARARs, completed removal action, documentation showing that no hazardous substance release have occurred, EPA approved risk assessment completed)? | ☐ | ☒ |

**Please explain all "yes" answer(s), attach additional sheets if necessary:**

**Site Determination:**

☐ Enter the site into CERCLIS. Further assessment is recommended (Explain below).

☐ The site is not recommended for placement into CERCLIS (Explain below).

☒ Further assessment is recommended under PRE-CERCLA (Explain below).

**DECISION/DISCUSSION/RATIONALE:**
The Brownfield Site Specific Assessment (SSA) report for an adjoining property identified tetrachloroethene (PCE) and its degradation products in a monitoring well (MW 6) located at the Guthrie Center Fire Station, presumably in the hydraulically upgradient direction from the SSA site. PCE and TCE were also detected on the adjoining property and MW 6 in 2006. Further investigation is warranted because:

- Separate sampling events (2006 and 2009) have detected PCE and its degradation products at MW 6 and the adjoining property. PCE concentrations increased between the 2006 and 2009 sampling events, and PCE was present during the 2009 sampling event in a monitoring well where it was not previously detected (MW-12), i.e., the contaminant plume appears to be migrating toward the city wells. The PCE concentration in MW-6, 300 µg/L, was the highest PCE concentration observed during the SSA sampling, and well above the statewide standard for protected groundwater sources, 5 µg/L.

- Site contamination has not been sufficiently defined, i.e., due to the limited nature of the previous investigations, which were focused on an adjacent property, the area of highest contaminant concentration (the source area) may not have been defined, and the horizontal extent of contamination has not been defined.

- Two municipal water supply wells are located in the vicinity. Groundwater flow direction appears to be generally towards the wells, but should be further evaluated to determine the potential threat to the nearby wells.

Further investigation, consisting of an extended site screening (ESS), is recommended under CERCLA authority to locate a contaminant source (or sources) while defining the nature and extent of contamination.

**Regional EPA Reviewer:**

Print Name/Signature _____ Date _____

**State Agency/Tribe:**

CAL LUNDBERG _____ 10/26/09

Print Name/Signature Date

**REGION VII**
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

ENFORCEMENT SENSITIVE INFORMATION
FOR INTERNAL USE ONLY

## LOCATION FORM - *(Required information highlighted in red)*

**SITE NAME:** Guthrie Center PCE, Guthrie Center, Iowa **EPA ID:** ____

**Latitude:** 41.677222 **Longitude:** -94.507222 **Measurement Sequence:** _____
*(Decimal Decree format)* (See Comment A)

**Lat/Long Source:**
☐ Contractor ☐ EPA Headquarters ☐ (Blank)
☐ Dun & Bradstreet ☐ Epic
☐ EPA Region 7 ☒ Other: USGS National Map Viewer
☐ Geograph ☐ Private **Designate Lat/Long:** ☒ Primary ☐ NPL Coordinate
☐ Other Federal Agency ☐ SNAP
☐ Regulated Entity ☐ Tribe
☐ State ☐ Unknown

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**Collection Method:**
☐ Address Matching -House Number ☐ Address Matching - Block Face ☐ Address Matching - Street Centerline
☐ Address Matching -Nearest Intersection ☐ Address Matching - Primary Name ☐ Address Matching - Digitized
☐ Address Matching - Other ☐ Census Block - 1990 - Centroid ☐ Census Block/Group 1990-Centroid
☐ Census Block/Tract - 1990 - Centroid ☐ Classical Surveying Techniques ☐ Census - Other
☐ GPS Carrier Phase Static Relative Position ☐ GPS Carrier Phase Kinematic Relative Position ☐ GPS, with Canadian Active Control System
☐ GPS Code (Pseudo Range) Differential ☐ GPS Code (Pseudo Range) Precise Position ☐ GPS Code (Pseudo Range) Standard Position (SA-Off)
☐ GPS Code (Pseudo Range) Standard Position Service SA-On ☐ GPS-Unspecified ☐ Interpolation-Digital Map Source (TIGER)
☐ Interpolation-Map ☐ Interpolation -MSS ☒ Interpolation -Photo ☐ Interpolation – Satellite ☐ Interpolation - SPOT
☐ Interpolation-TM ☐ Interpolation - Other ☐ LORAN C ☐ Public Land Survey-Eighth Section ☐ Public Land Survey-Footing
☐ Public Land Survey-Quarter Section ☐ Public Land Survey-Section ☐ Public Land Survey-Sixteenth Section
☐ ZIP+2 Centroid ☐ ZIP+4 Centroid ☐ ZIP Code - Centroid ☐ Unknown

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**Reference Point:**
☐ Administrative Building ☐ Air Monitoring Station ☐ Air Release Stack ☐ Air Release Vent
☐ Atmos. Emissions Trtmnt Unit ☐ Boundary Point ☐ Building Entrance ☐ Facility/Centroid Cent ☐ Facility/Station Bldg Entrance
☐ Intake Point ☐ Lagoon or Settling Pond ☐ Liquid Waste Treatment Unit ☐ Loading Area Centroid ☐ Loading Facility
☐ Monitoring Point ☐ NE Corner of Land Parcel ☐ NW Corner of Land Parcel ☒ Other ☐ Plant Entrance (Freight)
☐ Plant Entrance (General) ☐ Plant Entrance (Personnel) ☐ Process Unit Area Centroid ☐ Process Unit ☐ SE Corner of Land Parcel
☐ Solid Waste Storage Area ☐ Solid Waste Trtmnt/Disp. Unit ☐ Storage Tank ☐ SW Corner of Land Parcel ☐ Unknown
☐ Water Monitoring Station ☐ Water Release Pipe ☐ Well ☐ Well Protection Area ☐ Release Point ☐ Treatment/Storage Plant

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**Reference Datum:** ☐ NAD27 ☐ NAD83 ☐ Other ☒ Unknown ☐ WGS84

**Accuracy Meters +/-:** _____ ☒ **Accuracy Unknown** **Collection Date:** _____/_____/_____

**Verification Method:**
☐ Ground Truth Conducted ☐ Point In Polygon (County) ☐ Blank
☐ Point in Polygon (Zip) ☐ Proximity to Alternative Facility Coordinate) ☐ Not Verified
☐ Proximity to Polygon Centroid(Other) ☐ Proximity to Polygon Centroid (Zip Code)
☐ Verified Relative to Map Features (1:100K/Tiger) ☒ Verified Relative to Map Features (1:24K)
☐ Verified Relative to Map Features (Other) ☐ Verified, Unknown Method
☐ Proximity to Polygon Centroid (County) ☐ Point in Polygon (Other)

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**Point/ Line/ Area:** ☐ AREA ☐ LINE ☒ POINT ☐ REGION ☐ ROUTE ☐ (BLANK)

**Source Map Scale:** ☐ 1:10,000 ☐ 1:12,000 ☐ 1:15,840 ☐ 1;20,000 ☒ 1:24,000 ☐ 1:25,000 ☐ 1:50,000
☐ 1:62,500 ☐ 1:63,360 ☐ 1:100,000 ☐ 1:125,000 ☐ 1:250,000 ☐ 1:500,000 ☐ NONE ☐ UNKNOWN
☐ OTHER_____

COMMENTS:____

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***Signatures:***

**RPM/OSC:** _____ **Date:** ___/___/___ **BRANCH CHIEF:**_____ **Date:** ___/___/___

A) A sequential number to indicate the order in which points on a line or area are connected. For an area, the maximum point is connected to the first. Required if the feature is polygonal or linear 3 numeric.

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